COPC	Species	Endpoint	Endpoint Effect	Reference	Used in LWG SSD derivation?	Comments
DDx	*Carassius auratus* (goldfish)	Behavior	equilibrium loss and convulsions	Gakstatter and Weiss 1967	Yes	Will be included because behavior was severe, integral to experimental design, and directly linked to mortality
DDx	*Lepomis macrochirus* (bluegill)	Behavior	equilibrium loss and convulsions	Gakstatter and Weiss 1967	Yes	Will be included because behavior was severe, integral to experimental design, and directly linked to mortality
Lead	*Pimephales promelas* (fathead minnow)	Behavior	reduction in feeding rate and ability to capture and eat prey	Weber et al. 1991	Yes	Prey capture efficiency directly linked to reduced growth
Mercury	*Gambusia affinis* (mosquitofish)	Behavior	reduction in feeding rate and ability to capture and eat prey	Kania and O'Hara 1974	Yes	Prey capture efficiency directly linked to reduced growth
PCBs	*Phoxinus phoxinus* (minnow)	Behavior, reproduction	ability of minnow to withstand rotary flow, reduction in time to hatch, fry death	Bengtsson 1980	Yes	Investigated ability to withstand rotary flow; no significant difference between PCB exposed and control fish. Included in TRV derivation based on reported reproductive LOER.
Cadmium	*Oncorhynchus mykiss* (rainbow trout)	Mortality, Behavior	survival reduced, impaired swimming, lower Ca influx	Hollis et al. 2000	No	Does not meet established acceptability criteria. No significant adverse effects were reported.
Cadmium	*Oncorhynchus mykiss* (rainbow trout)	Behavior	eliminated predator avoidance behavior, inhibited cortisol release	Scott et al. 2003	No	Does not meet established acceptability criteria (not dose-responsive). Dietary exposure results in similar tissue burdens as the highest aqueous exposures but no effects (reduced predator avoidance) observed. The authors suggest that olfactory exposure determines toxicity, not whole body tissue residue.)
Cadmium	*Clupea harengus* (herring)	Behavior	Increase in abnormal trembling of larvae	von Westernhagen et al. 1974	No	Does not meet established acceptability criteria. Egg/embryo study through hatching; does not include sac-fry exposure or effects.
Cadmium	*Belone belone* (garpike)	Behavior	Decreased heartbeat, abnormal pectoral fin movement	von Westernhagen et al. 1974	No	Does not meet established acceptability criteria. Egg/embryo study through hatching; does not include sac-fry exposure or effects.
Copper	*Poecilia reticulata* (guppy)	Behavior	reduced swimming speed, increased fin movement	Khunyakari et al. 2001	No	Does not meet established acceptability criteria. Separate exposures for residue and behavior endpoints.
Copper	*Pimephales promelas* (fathead minnow)	Behavior	12% reduction in critical swimming speed, reduced whole body sodium	Kolok et al. 2002	No	Does not meet established acceptability criteria. Not dose-responsive. Cu exposed individuals with the greatest reduction in swimming speed were those with the lowest whole body Cu concentrations.
Copper	*Cyprinus carpio* (common carp)	Behavior	decreased swimming and catalase activity, liver necrosis, skin color change	Varanka et al. 2001	No	Does not meet established acceptability criteria. Injected dose.
Copper	*Clarias anguillaris* (catfish)	Behavior	reduced feeding	Daramola and Oladimeji 1989	No	Does not meet established acceptability criteria. Effects data not presented for each species and dose level; unable to quantify magnitude of effect.
Copper	*Oreochromis niloticus* (Nile tilapia)	Behavior	reduced feeding	Daramola and Oladimeji 1989	No	Does not meet established acceptability criteria. Effects data not presented for each species and dose level; unable to quantify magnitude of effect.
DDx	*Carassius auratus* (goldfish)	Behavior	locomotor activity reduced	Davy et al. 1972	No	Behavioral endpoint (consecutive turns) has not been directly linked to reduced survival, growth or reproduction.
DDx	*Gadus morhua* (Atlantic cod)	Behavior	altered behavior	Dillon 1984	No	Does not meet established acceptability criteria. Secondary citation from review paper.
DDx	*Micropogonias undulatus* (Atlantic croaker)	Behavior	reduced larval swimming ability	Faulk et al. 1999	No	Does not meet established acceptability criteria. LOER based on egg residue.
Lindane	*Oncorhynchus mykiss* (rainbow trout)	Behavior	lethargy in fry	Ramamoorthy 1985	No	Does not meet established acceptability criteria. Not experimentally evaluated, no dose-response information presented, magnitude of effect cannot be determined.
Mercury	*Thymallus thymallus* (grayling)	Behavior	altered behavior	Fjeld et al. 1998	No	Does not meet established acceptability criteria. LOER based on egg residue.
Mercury	*Oncorhynchus mykiss* (rainbow trout)	Behavior	loss of equilibrium, skin darkening	Matida et al. 1971	No	Does not meet established acceptability criteria. Field study; fish exposed to prey from a contaminated site.
Mercury	*Salmo trutta* (brown trout)	Behavior	loss of equilibrium, abnormal swimming pattern	Skak and Baatrup 1993	No	Does not meet established acceptability criteria. Residue and effects data are from different experiments.
Mercury	*Notemigonus crysoleucas* (golden shiner)	Behavior	altered predator avoidance behavior	Webber and Haines 2003	No	Behavioral endpoint (shaol vertical dispersal) has not been directly linked to reduced survival, growth or reproduction.
PCBs	*Salvelinus namaycush* (lake trout)	Behavior	change in temperature preference	Dillon 1984	No	Does not meet established acceptability criteria. Secondary citation; exposed to multiple contaminants.
PCBs	*Gadus morhua* (Atlantic cod)	Behavior	changes in swim posture	Dillon 1984 (Olofsson and Lindahl 1979)	No	Does not meet established acceptability criteria. Secondary citation; field collected fish.
PCBs	*Salmo salar* (Atlantic salmon)	Behavior	retarded phototropism behavior in alevins	Fisher et al. 1994	No	Does not meet established acceptability criteria. Exposed during egg stage, tissue residues represent growth dillution.
PCBs	*Salmo trutta* (brown trout)	Behavior	enlarged liver, decreased hemoglobin, sluggish behavior	Johansson et al. 1972	No	Does not meet established acceptability criteria. Exposed via gavage or injection.
Zinc	*Salmo salar* (Atlantic salmon)	Behavior	decreased food intake within 10 days	Farmer et al. 1979	No	Does not meet established acceptability criteria. Tissue residues not dose-responsive; no effects on growth; food intake rate recovered by end of experiment.